

COATED CEMENTED CARBIDE EXCELLENT IN PEEL STRENGTH AND PROCESS
FOR PRODUCING THE SAME

Ine A
A
BACKGROUND OF THE INVENTION

1. Field of the invention

This invention relates to a coated cemented carbide to be used as cutting tools represented by an insert, drill and end mill or various kinds of wear-resistant tools and parts, and a process for producing the coated cemented carbide excellent in peel strength in which a hard film is coated.

2. Prior art

Coated cemented carbides in which a hard film such as TiC, TiCN, TiN, Al_2O_3 , etc. is coated on the surface of a cemented carbide material by a chemical vapor deposition (CVD) or physical vapor deposition (PVD) method have both of strength and toughness of the substrate and wear resistance of the hard film in combination so that they are frequently used as cutting tools, wear resistant tools or parts, etc. However, if adhesiveness between the substrate and the film is poor, the substrate abruptly wears at the time of use due to peel off of the film, whereby the lifetime is shortened. Thus, in order to ensure adhesiveness, various attempts have been made, e.g., the surface of the substrate is treated for regulation, a film material of a subbing layer is selected, coating conditions of a subbing layer are optimized, and the like.

A substrate of a coated cemented carbide generally comprises a machined surface in which a grinding treatment, a blushing treatment or a blast treatment has been carried out, and a burnt

RECEIVED

APR 14 2004

TC 1700